

The Original
Wide-View
design
by Simpson



Simpson



OVER 1325 STOCK
SIZES AND TYPES

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INSTRUMENTS THAT

1½", 2½", 3½", 4½"
WIDE-VUE
PANEL METERS

CASE STYLES



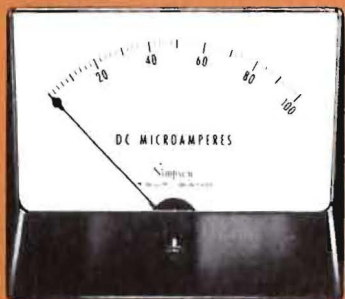
1½" Models



2½" Models



3½" Models



4½" Models

STOCK PANEL METER RANGES AND PRICES

CALIBRATION AND DIALS—All DC Wide-Vue meters listed below have the Simpson self-shielded movement (Calibration not affected by stray magnetic fields or magnetic mounting). All AC Wide-Vue meters have the Simpson Iron-vane type movement. AC Milliammeters and Ammeters, except 0-10 amps, are calibrated for use on 25 through 800 cps; 0-10 AC Ammeters and all AC Voltmeters are calibrated for use on 25 through 125 cps. For other specified frequencies up to 800 cps add \$1.65 to the list price.

RANGE RESISTANCE (ohms)		1½" CASE STYLE CAT. NO. PRICE		2½" CASE STYLE CAT. NO. PRICE		3½" CASE STYLE CAT. NO. PRICE		4½" CASE STYLE CAT. NO. PRICE	
DC VOLTMETERS Self Shielding Meter Movement		MODEL 1212		MODEL 1227		MODEL 1327		MODEL 1329	
0-5	1000 ohms per volt	9540	\$12.75	9550	\$13.80	9720	\$14.25	9870	\$15.75
0-8		—	—	—	—	9730	14.25	9880	15.75
0-10		9541	12.75	9560	13.80	9740	14.25	9890	15.75
0-15		9542	12.75	9570	13.80	9750	14.25	9900	15.75
0-25		9543	12.75	9580	13.80	9760	14.25	9910	15.75
0-30		9544	12.75	9590	13.80	9770	14.25	9920	15.75
0-50		9545	12.75	9600	13.80	9780	14.25	9930	15.75
0-100		9546	12.75	9610	13.80	9790	14.25	9940	15.75
0-150		9547	12.75	9620	13.80	9800	14.25	9950	15.75
0-200		—	—	9622	13.80	9810	14.25	9960	15.75
0-250	—	—	9623	13.80	9820	14.25	9970	15.75	
0-300	—	—	9630	13.80	9830	14.25	9980	15.75	
0-300	2000 ohms per volt	9548	12.75	—	—	—	—	—	—
0-500		9549*	16.05	9640	14.25	9840	15.00	9990	16.20
0-750		—	—	9650*	17.55	9850	15.00	10000	16.20
0-1000		—	—	9660*	17.85	9860*	18.60	10010*	19.80
DC AMMETERS Self Shielding Meter Movement		MODEL 1212		MODEL 1227		MODEL 1327		MODEL 1329	
0-1	.050	2431	\$12.75	2440	\$13.05	2640	\$13.65	2820	\$15.00
0-1.5	.033	—	—	2450	13.05	2650	13.65	2830	15.00
0-2	.025	2432	12.75	2460	13.05	2660	13.65	2840	15.00
0-3	.0166	2433	12.75	2470	13.05	2670	13.65	2850	15.00
0-5	.010	2434	12.75	2480	13.05	2680	13.65	2860	15.00
0-10	.005	2435	12.75	2490	13.05	2690	13.65	2870	15.00
0-15	.0033	2436†	12.75	2500	13.05	2700	13.65	2880	15.00
0-25	.0020	2437†	12.75	2510	13.05	2710	13.65	2890	15.00
0-30	.0017	—	—	2520	13.05	2720	13.65	2900	15.00
0-50	.001	2438†	12.75	2530	13.05	2730	13.65	2910	15.00
0-100	10.0	—	—	2540†	13.05	2740†	13.65	2920†	15.00
0-150	10.0	—	—	2550†	13.05	2750†	13.65	2930†	15.00
0-200	10.0	—	—	2552†	13.05	2760†	13.65	2940†	15.00
0-300	10.0	—	—	2554†	13.05	2770†	13.65	2950†	15.00
0-500	10.0	—	—	—	—	2780†	13.65	2960†	15.00
15-0-15	.0033	—	—	—	—	2790	14.55	—	—
30-0-30	.0017	—	—	—	—	2800	14.55	—	—
50-0-50	.001	—	—	—	—	2810	14.55	—	—

*External Multipliers, Model 183 are furnished on 1½" DC meters 500 volts or higher; on 2½" DC meters 750 volts or higher; and on 3½" and 4½" DC meters 1000 volts or higher. All others are self-contained.

†1½" DC Ammeters are self-contained through 10 amps. 15 amps and higher are supplied as 50 MV meters to be used with external shunts. 2½", 3½" and 4½" DC ammeters are self-contained through 50 amps. Higher range DC ammeters are 50 MV meters to be used with external shunts. Shunt listings are on back page.

STAY ACCURATE

Simpson

SPECIFICATIONS

SIZE	MODEL NO.	ACCURACY	SCALE LENGTH
1½"	1212	± 2% of full scale	1.5" (38.1 mm)
	1214	± 3% F. S. @ 25° C. & 60 cy. Sine Wave	
2½"	1227, 1257	± 2% of full scale	2.5" (63.8 mm)
	1247	± 3% F. S. @ 25° C. & 60 cy. Sine Wave	
3½"	1327, 1337, 1357	± 2% of full scale	3.14" (79.7 mm)
	1347	± 3% F. S. @ 25° C. & 60 cy. Sine Wave	
4½"	1329, 1339, 1359	± 2% of full scale	3.93" (100 mm)
	1349	± 3% F. S. @ 25° C. & 60 cy. Sine Wave	

RANGE	RESISTANCE (ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE	3½" CASE STYLE CAT. NO. PRICE	4½" CASE STYLE CAT. NO. PRICE
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TAUT BAND METERS					
DC MICROAMMETERS Self Shielding Tautband Meter Movement		MODEL 1227T	MODEL 1327T	MODEL 1329T	

10	4900	—	—	04303• \$30.00	04359• \$31.20	04459• \$33.60
15	1960	—	—	04304• 27.30	04361• 28.20	04461• 30.60
25	1960	—	—	04306• 23.40	04371• 24.30	04471• 26.40
30	960	—	—	04311• 20.55	04381• 21.00	04481• 22.65
100	503	—	—	04321• 18.90	04391• 19.50	04491• 21.30

DC MICROAMMETERS Self Shielding Meter Movement	MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329
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0-15	4500	—	—	4360 \$22.50	4460 \$24.60
0-25	2200	—	4305 \$19.20	4370 20.10	4470 22.20
0-50†	2000	4294 \$16.20	4310 16.65	4380 17.10	4480 18.45
0-100	2000	4295 14.40	4320 15.00	4390 15.60	4490 17.40
0-200	1000	4296 13.05	4330 13.65	4400 14.25	4500 15.75
0-500	200	4297 12.80	4340 13.50	4410 13.95	4510 15.15
25-0-25	2000	4298 16.35	—	4420 17.25	4520 18.60
50-0-50	2000	4302 14.55	4350 15.15	4430 15.75	4530 17.55
100-0-100	1000	4300 13.20	4351 13.80	4440 14.40	4540 15.90
500-0-500	46	4301 12.45	4352 13.05	4450 13.65	4550 14.40

DC MILLIAMMETERS Self Shielding Meter Movement	MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329
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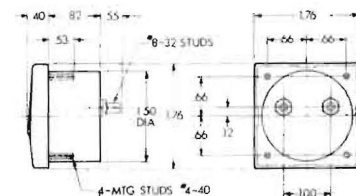
0-1	46	6163 \$12.30	6175 \$12.90	6310 \$13.50	6470 \$14.25
0-3	46	—	6180 12.90	6320 13.50	6480 14.25
0-5	23	6164 12.30	6190 12.90	6330 13.50	6490 14.25
0-10	2.2	6165 12.30	6200 12.90	6340 13.50	6495 14.25
0-15	2.2	6166 12.30	6210 12.90	6350 13.50	6502 14.25
0-20	2.2	—	6215 12.90	6360 13.50	6524 14.25
0-25	6.0	6167 12.75	6220 13.20	6370 13.80	6530 15.00
0-50	3.0	6168 12.75	6230 13.20	6380 13.80	6540 15.00
0-100	1.5	6169 12.75	6240 13.20	6390 13.80	6550 15.00
0-150	1.0	6170 12.75	6250 13.20	6400 13.80	6560 15.00
0-200	.75	6171 12.75	6260 13.20	6410 13.80	6570 15.00
0-250	.60	6172 12.75	6270 13.20	6420 13.80	6580 15.00
0-300	.50	6173 12.75	6280 13.20	6430 13.80	6590 15.00
0-500	.30	6174 12.90	6290 13.20	6440 13.80	6600 15.00
0-750	.20	—	—	6450 13.80	6610 15.00
0-1000	.05	—	6292 13.20	6460 13.80	6620 15.00

†Resistance of 0-50 Mic Meter in Model 1212 is 5300 ohms.

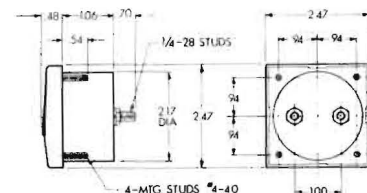
•New Model Additions.

SIMPSON PANEL METERS ARE CARRIED IN STOCK BY ELECTRONIC DISTRIBUTORS EVERYWHERE.

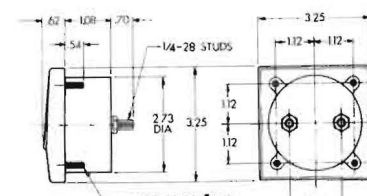
DIMENSIONS



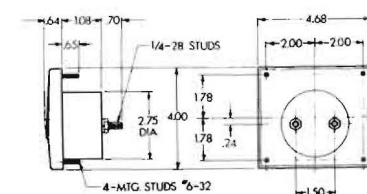
1½" Model 1212



2½" Model 1227



3½" Model 1327



4½" Model 1329

SIMPSON ELECTRIC COMPANY

Simpson

1½", 2½", 3½", 4½"
WIDE-VUE
PANEL METERS

CASE STYLES



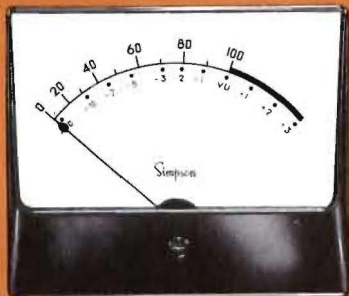
1½" Models



2½" Models



3½" Models



4½" Models

SIMPSON STOCK METER RANGES AND PRICES

CALIBRATION AND DIALS--All DC and AC rectifier type Wide-Vue meters listed below have the Simpson self-shielded movement (Calibration not affected by stray magnetic fields or magnetic panel mounting). All AC Wide-Vue meters have the Simpson Iron-vane type movement. AC Milliammeters and Ammeters except 0-10 amps are calibrated for use on 25 through 800 cps; 0-10 AC Ammeters and all AC Voltmeters are calibrated for use on 25 through 125 cps. For other specified frequencies up to 800 cps, add \$1.65 to the list price.

SPECIFICATIONS

SIZE	MODEL NO.	ACCURACY	SCALE LENGTH
1½"	1212	±2% of full scale	1.5" (38.1 mm)
	1214	±3% F. S. @ 25° C. & 60 cy. Sine Wave	
2½"	1227, 1237, 1257, 1277	±2% of full scale	2.5" (63.8 mm)
	1247	±3% F. S. @ 25° C. & 60 cy. Sine Wave	
3½"	1327, 1337, 1357, 1377	±2% of full scale	3.14" (79.7 mm)
	1347	±3% F. S. @ 25° C. & 60 cy. Sine Wave	
4½"	1329, 1339, 1359, 1379	±2% of full scale	3.93" (100 mm)
	1349	±3% F. S. @ 25° C. & 60 cy. Sine Wave	

RANGE	RESISTANCE (ohms)	1½" CASE STYLES CAT. NO. PRICE	2½" CASE STYLES CAT. NO. PRICE	3½" CASE STYLES CAT. NO. PRICE	4½" CASE STYLES CAT. NO. PRICE
DC MILLIVOLTMETER Self Shielding Meter Movement		MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329
0-50	10	7005 \$12.75	7010 \$13.05	7020 \$13.65	7030 \$15.00
50-0-50	10	—	—	7021 13.65	7031 15.00
RF AMMETERS Self Shielding Meter Movement				MODEL 1337	MODEL 1339
0-1	.343	—	—	2970 \$15.90	3050 \$18.15
0-1.5	.200	—	—	2980 15.90	3060 18.15
0-2	.120	—	—	2990 15.90	3070 18.15
0-2.5	.10	—	—	3000 15.90	3080 18.15
0-3	.08	—	—	3010 15.90	3090 18.15
0-5	.045	—	—	3020 15.90	3100 18.15
0-8	.031	—	—	3030 15.90	3110 18.15
0-10	.023	—	—	3040 15.90	3120 18.15
RF MILLIAMMETERS					
0-500	.63	—	—	5362 \$18.75	5364 \$21.15
AC VOLTMETERS RECTIFIER TYPE Self Shielding Meter Movement		MODEL 1214	MODEL 1247	MODEL 1347	MODEL 1349
0-5	2000 OHMS PER VOLT	10011 \$17.70	10015 \$16.50	10020 \$18.30	10090 \$20.10
0-10		10012 17.70	10016 16.50	10030 18.30	10100 20.10
0-15		—	—	10040 18.30	10110 20.10
0-50		—	—	10050 18.30	10120 20.10
0-150	VOLT	10013 17.70	10017 16.50	10060 18.30	10130 20.10
0-300		10014 17.70	10018 16.50	10070 18.30	10140 20.10
VOLUME LEVEL INDICATORS DECIBEL METERS Self Shielding Meter Movement			MODEL 1247	MODEL 1347	MODEL 1349
RANGE Zero Power Level—6 MW. 500 Ohm Line					
General-Purpose 5000 ohms		—	3483 \$18.35	3485 \$19.60	3487 \$20.25
VOLUME LEVEL INDICATORS V. U. METERS† Self Shielding Meter Movement		MODEL 1214	MODEL 1247	MODEL 1347	MODEL 1349
Reference Level—1 MW. 600 Ohm Line					
A—Scale		10472 \$19.80	10474 \$21.90	10480 \$22.50	10490 \$23.70
B—Scale		—	—	10550 22.50	10560 23.70
DC GALVANOMETERS Self Shielding Meter Movement		MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329
SENSITIVITY RESIST. MICRO-ANCE					
RANGE	AMPERES (ohms)				
50-0-50	500-0-500	46 3692 \$12.45	3700 \$12.90	3730 \$13.65	3732 \$14.40
50-0-50	75-0-75	2000 3694 13.20	3710 13.95	3720 15.15	3734 16.65

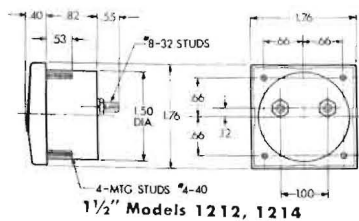
†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses per cent use of transmitter output and is the standard for broadcast service.
•New Model additions.

WIDE-VUE PANEL METERS

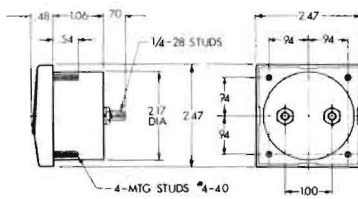
RANGE		RESISTANCE (ohms)	2½" CASE STYLE CAT. NO. PRICE		3½" CASE STYLE CAT. NO. PRICE		4½" CASE STYLE CAT. NO. PRICE	
AC VOLTMETERS Iron Vane Type Movement			MODEL 1257		MODEL 1357		MODEL 1359	
0-5		33	—	—	10160	\$12.60	10260	\$14.40
0-10		133	9670	\$12.30	10170	12.60	10270	14.40
0-15		300	9675	12.30	10180	12.60	10280	14.40
0-25		833	9680	12.45	10190	13.05	10290	14.40
0-50		3,333	9690	12.45	10200	13.05	10300	14.40
0-100		16,666	9695	12.75	10210	13.65	10310	14.40
0-150		25,000	9700	13.05	10220	13.95	10320	15.00
0-250		41,166	9705	13.05	10230	13.95	10330	15.00
0-300		50,000	9710	13.05	10240	13.95	10340	15.00
0-500		83,333	9715*	16.65	10250*	17.85	10350*	19.05
AC AMMETERS Iron Vane Type Movement			MODEL 1257		MODEL 1357		MODEL 1359	
0-1		.287	2560	\$11.70	3130	\$12.45	3260	\$14.55
0-1.5		.185	2570	11.70	3140	12.45	3270	14.55
0-2		.115	—	—	3150	12.45	3280	14.55
0-3		.027	2575	11.70	3160	12.45	3290	14.55
0-5		.012	2580	11.70	3170	12.45	3300	14.55
0-10		.0031	2590	11.70	3180	12.45	3310	14.55
0-15		.0022	2599	11.70	3190	12.45	3320	14.55
0-25		.0003	2609	12.30	3200	12.90	3330	15.00
0-30		.0003	2615	12.30	3205	12.90	3335	15.00
0-50		.0006	2619	12.30	3210	12.90	3340	15.00
0-75		.012	—	—	3215	13.95	3345	16.05
0-100		.012	2622†	11.70	3220†	12.45	3350†	14.55
0-150		.012	2624†	11.70	3230†	12.45	3360†	14.55
0-200		.012	2626†	11.70	3240†	12.45	3370†	14.55
0-300		.012	2627†	11.70	3250†	12.45	3380†	14.55
AC MILLIAMMETERS Iron Vane Type Movement			MODEL 1257		MODEL 1357		MODEL 1359	
0-10		2,000	6294	\$11.70	6625	\$12.45	6665	\$14.55
0-50		80	6295	11.70	6630	12.45	6670	14.55
0-100		20	6296	11.70	6640	12.45	6680	14.55
0-250		5	6297	11.70	6650	12.45	6690	14.55
0-500		.9	6300	11.70	6660	12.45	6699	14.55
WATTMETERS DYNAMOMETER TYPE Single Phase			Wattmeters calibrated for a frequency range of 25-125 cycles.		for either magnetic or non-magnetic panels and		MODEL 1379	
RANGE WATTS	RANGE VOLTS	MAX. AMPS						
0-75	150	1.0	—	—	—	—	10960•	\$34.92
0-150	150	2.0	—	—	—	—	10970•	34.92
0-300	150	4.0	—	—	—	—	10975•	34.92
0-750	150	10.0	—	—	—	—	10990•	34.92
0-600	300	4.0	—	—	—	—	10980•	37.47
0-1500	300	10.0	—	—	—	—	11000•	37.47
0-3000	300	20.0	—	—	—	—	11010•	37.47
COMPENSATED WATTMETERS								
0-10	300	.175	—	—	—	—	10930•	46.75
0-20	300	.400	—	—	—	—	10940•	46.75
0-30	300	.650	—	—	—	—	10950•	46.75

*External Multipliers, Model 183 (Featured on back page) are furnished on AC meters having a range of 500 volts or higher. All others are self-contained.
†2½" AC ammeters are self-contained through 50 amps. 3½" and 4½" AC ammeters self-contained through 75 amps. Higher range AC ammeters are 5 amp meters to be used with external current transformer. See back page for current transformer listings.

•New Model additions.

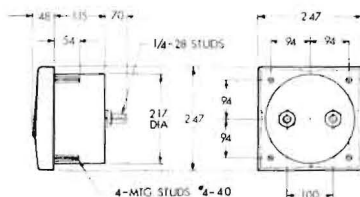


1½" Models 1212, 1214

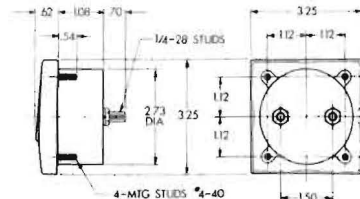


2½" Models 1227, 1237, 1247

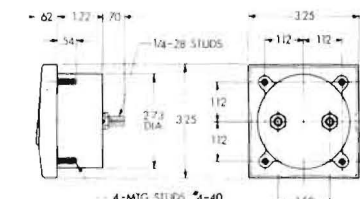
DIMENSIONS



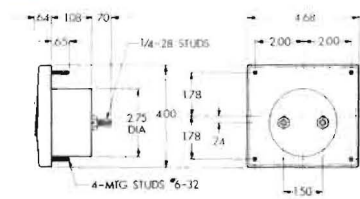
2½" Model 1257



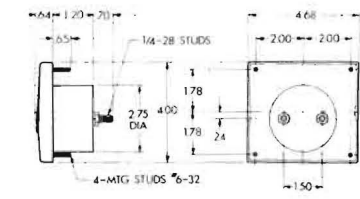
3½" Models 1327, 1337, 1347



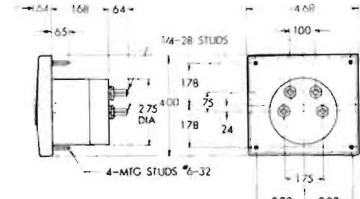
3½" Model 1357



4½" Models 1329, 1339, 1349



4½" Model 1359



4½" Model 1379

Simpson

INSTRUMENTS THAT

SIMPSON STOCK METER RANGES AND PRICES

CALIBRATION AND DIALS—All DC meters listed below have the Simpson External Magnet Type Movement calibrated for non-magnetic panel. When ordering external magnet DC meters to be used on steel panels, state panel thickness and add \$1.65 to list price shown below for re-calibration. As an accommodation, Simpson maintains a large supply of special dials that can be substituted for most dials listed on this page, add \$1.65 to list prices shown. Write to the factory for availability on special dials before ordering.

RANGE		RESISTANCE (Ohms)	2½" CASE STYLES CATALOG NOS. PRICE			3½" CASE STYLES CATALOG NOS. PRICE			4½" CASE STYLES CAT. NO. PRICE		
DC VOLTMETERS External Magnet Meter Movement			MODELS 125 127			MODELS 25 27			MODEL 29		
0-1.5	1000 ohms per volt		8850	9020	\$13.05	7060	7290	\$13.50	7620	\$14.85	
0-3			8860	9030	13.05	7070	7300	13.50	7630	14.85	
0-5			8870	9040	13.05	7080	7310	13.50	7640	14.85	
0-8			8880	9050	13.05	7090	7320	13.50	7650	14.85	
0-10			8890	9060*	13.05	7100	7330*	13.50	7660	14.85	
0-15			8900	9080	13.05	7110	7350	13.50	7670	14.85	
0-25			8910	9090	13.05	7120	7360	13.50	7680	14.85	
0-30			8920	9100	13.05	7130	7370	13.50	7690	14.85	
0-50			8930	9110*	13.05	7140	7380*	13.50	7700	14.85	
0-100			8940	9130	13.05	7150	7400	13.50	7710	14.85	
0-150	2000 ohms per volt		8950	9140*	13.05	7160	7410*	13.50	7720	14.85	
0-200			8960	9160	13.05	7170	7430	13.50	7730	14.85	
0-250			8970	9170	13.05	7180	7440	13.50	7740	14.85	
0-300			8980	9180*	13.05	7190	7450*	13.50	7750	14.85	
0-500			8990	9200	13.80	7200	7470*	14.10	7760	15.30	
0-750			9000†	9210†	16.65	7210	7490	14.10	7770	15.30	
0-1000			9010†	9220†	16.95†	7220†	7495*†	17.55	7780†	19.20	
0-1500				—	—	7230†	7520†	17.85	7790†	19.50	
0-2000				—	9225†	17.55†	7240†	7530*†	18.15	7800†	19.80
0-2500				—	—	—	7250†	7550†	18.45	7810†	20.10
0-3000			9015†	—	18.15†	7260†	7560*†	18.75	7820†	20.40	
0-4000			—	—	—	7270†	7580*†	19.05	7830†	20.70	
0-5000			—	—	—	7280†	7600*†	19.35	7840†	21.00	
DC AMMETERS External Magnet Meter Movement			MODELS 125 127			MODELS 25 27			MODEL 29		
0-1	.050	1460	1680	\$12.90	0005	0230	\$13.35	0450	\$14.70		
0-1.5	.033	1470	1690	12.90	0020	0240	13.35	0460	14.70		
0-2	.025	1480	1709	12.90	0030	0250	13.35	0470	14.70		
0-3	.0166	1490	1710	12.90	0040	0260	13.35	0480	14.70		
0-5	.010	1500	1720	12.90	0050	0270	13.35	0490	14.70		
0-10	.005	1510	1730	12.90	0060	0280	13.35	0500	14.70		
0-15	.0033	1520	1740	12.90	0070	0290	13.35	0512	14.70		
0-25	.0020	1530	1750	12.90	0080	0300	13.35	0520	14.70		
0-30	.0017	1540	1760	12.90	0090	0310	13.35	0530	14.70		
0-50	.001	1550	1770	12.90	0099	0320	13.35	0540	14.70		
0-75	10.0	1560†	1780†	12.45	0110†	0330†	12.90	0550†	14.40		
0-100	10.0	1570†	1790†	12.45	0120†	0340†	12.90	0560†	14.40		
0-150	10.0	1580†	1800†	12.45	0130†	0350†	12.90	0570†	14.40		
0-200	10.0	1590†	1810†	12.45	0140†	0360†	12.90	0580†	14.40		
0-250	10.0	1600†	1820†	12.45	0150†	0370†	12.90	0590†	14.40		
0-300	10.0	1610†	1830†	12.45	0160†	0380†	12.90	0600†	14.40		
0-500	10.0	1620†	1840†	12.45	0170†	0390†	12.90	0610†	14.40		
0-750	10.0	1630†	1850†	12.45	0177†	0400†	12.90	0620†	14.40		
0-1000	10.0	1640†	1860†	12.45	0188†	0410†	12.90	0630†	14.40		
15-0-15	.0033	1650	1870	13.20	0200	0420	13.65	0640	15.15		
30-0-30	.0017	1660	1880	13.20	0210	0430	13.65	0650	15.15		
50-0-50	.001	1670	1890	13.20	0220	0440	13.65	0660	15.15		

†External Multipliers, Model 183 are furnished on 2½" DC meters 750 volts or higher; and on 3½" and 4½" DC meters 1000 volts and higher. All others are self-contained.

‡DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50MV) listed above can be supplied with external shunts and include 5 foot leads.

SEE YOUR ELECTRONIC DISTRIBUTOR FOR YOUR PANEL METER
AND TEST EQUIPMENT REQUIREMENTS.

2½", 3½", 4½"

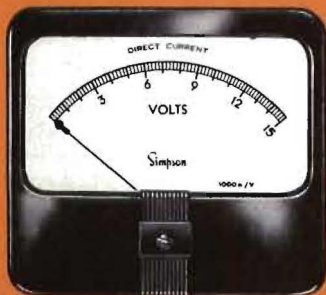
- ROUND and
 - RECTANGULAR
- STOCK METERS



2½" Models 125, 155
3½" Models 25, 55



2½" Models 127, 157
3½" Models 27, 57



4½" Model 29

STAY ACCURATE

DIMENSIONS

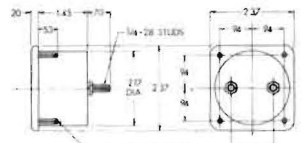
SPECIFICATIONS

SIZE	MODEL NUMBER	ACCURACY	SCALE LENGTH
2½"	125, 127	±2% of full scale	1.8" (45.7 mm)
3½"	25, 27		2.5" (63.7 mm)
4½"	29		3.9" (99.0 mm)

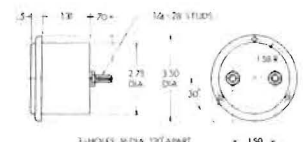


2½" Model 125

RANGE	RESISTANCE (Ohms)	2½"		3½"		4½"	
		CASE STYLES		CASE STYLES		CASE STYLES	
		CATALOG NOS.	PRICE	CATALOG NOS.	PRICE	CAT. NO.	PRICE
DC MILLIAMMETERS		MODELS		MODELS		MODEL	
External Magnet Meter Movement		125	127	25	27	29	
0-1	46	5580	5760*	4610	4790*	5070	\$13.95
0-1.5	46	5590	5780	4620	4810	5080	13.95
0-3	46	5600	5790	4630	4820	5090	13.95
0-5	23	5610	5800	4640	4830	5100	13.95
0-10	2.2	5620	5810*	4650	4840*	5110	13.95
0-15	2.2	5630	5830*	4660	4860*	5120	13.95
0-20	2.2	5640	5850	4670	4880	5130	13.95
0-25	6.0	5650	5860*	4680	4890*	5140	14.85
0-50	3.0	5660	5880*	4690	4910*	5150	14.85
0-75	2.0	5670	5900	4700	4930	5160	14.85
0-100	1.5	5680	5910*	4710	4940*	5170	14.85
0-150	1.0	5690	5930*	4720	4960*	5180	14.85
0-200	.75	5700	5940*	4730	4980*	5190	14.85
0-250	.60	5710	5960	4740	5000	5200	14.85
0-300	.50	5720	5970*	4750	5010*	5210	14.85
0-500	.30	5730	5990*	4760	5030*	5220	14.85
0-750	.20	5740	6010	4770	5050	5230	14.85
0-1000	.05	5750	6020	4780	5060	5240	14.85

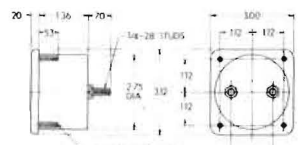


2½" Model 127



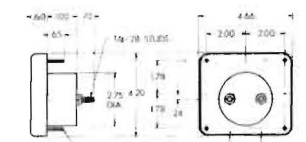
3½" Model 25

RANGE	RESISTANCE (Ohms)	2½"		3½"		4½"	
		CASE STYLES		CASE STYLES		CASE STYLES	
		CATALOG NOS.	PRICE	CATALOG NOS.	PRICE	CAT. NO.	PRICE
DC MICROAMMETERS		MODELS		MODELS		MODEL	
External Magnet Meter Movement		125	127	25	27	29	
0-15†	4500	—	—	3740	3840	3940	\$25.05
0-25††	2200	4200	4250	3750	3850	3950	22.65
0-50	2000	4210	4260	3760	3860	3960	18.90
0-100	2000	4220	4270	3770	3870	3970	17.25
0-200	1000	4230	4280	3780	3880	3980	15.45
0-500	200	4240	4281	3790	3890	3990	14.85
25-0-25	2000	4192	4243	3800	3900	4000	19.05
50-0-50	2000	4194	4245	3810	3910	4010	17.40
100-0-100	1000	4196	4247	3820	3920	4020	15.75
500-0-500	46	4198	4249	3830	3930	4030	14.10



3½" Model 27

RANGE	RESISTANCE (Ohms)	2½"		3½"		4½"	
		CASE STYLES		CASE STYLES		CASE STYLES	
		CATALOG NOS.	PRICE	CATALOG NOS.	PRICE	CAT. NO.	PRICE
DC MILLIVOLTMETERS		MODELS		MODELS		MODEL	
External Magnet Meter Movement		125	127	25	27	29	
0-50	10	6970	6990	6910	6930	6950	\$14.40
0-100	20	6980	7000	6920	6940	6960	14.40



4½" Model 29

*These 2½" and 3½" rectangular instruments are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb, for an additional cost of \$3.45 dealer's net.
†These meters use the Hi Flux magnet and cannot be recalibrated for use on steel panels.
††The Model 29 meters in this range use the Hi Flux magnet and cannot be recalibrated for use on steel panels.

SEE GLOSSARY OF TERMS, PAGES 17, 18 AND 19.

SIMPSON ELECTRIC COMPANY 7

Simpson

2½", 3½", 4½"
• ROUND and
• RECTANGULAR
PANEL METERS



2½" Models 125, 135, 155, 175
 3½" Models 25, 35, 55, 75

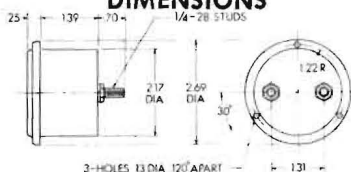


2½" Models 127, 137, 157, 177
 3½" Models 27, 37, 57, 77

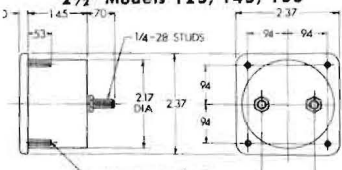


4½" Models 29, 39, 59, 79

DIMENSIONS



2½" Models 125, 145, 155



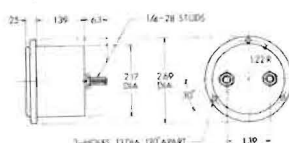
2½" Models 127, 147, 157

SIMPSON STOCK METER RANGES AND PRICES

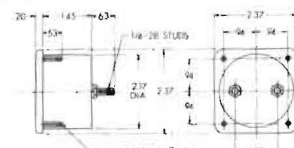
CALIBRATION AND DIALS—All DC meters listed below have the Simpson External Type Movement calibrated for non-magnetic panel. All AC meters have the Simpson Iron Vane type movement. AC Milliammeters and Ammeters, except 0-10 amps, are calibrated for use on 25 through 800 cps; 0-10 AC Ammeters and all AC Voltmeters are calibrated for use on 25 through 125 cps. Wattmeters listed below have the Simpson dynamometer movement calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 cycles. When ordering external magnet DC meters to be used on steel panels, state panel thickness and add \$1.65 to list price shown below for re-calibration. On AC iron vane voltmeters for use on other than 25-125 cps, specify frequency and add \$1.65 to list prices shown below. As an accommodation, Simpson maintains a large supply of special dials that can be substituted for most dials listed on this page, add \$1.65 to list prices shown. Write to the factory for availability on special dials before ordering.

RANGE	APPROX. IMPEDANCE (Ohms) @ 60 cps	2½" CASE STYLES CATALOG NOS. PRICE			3½" CASE STYLES CATALOG NOS. PRICE			4½" CASE STYLES CAT. NO. PRICE		
		MODELS			MODELS			MODEL		
RF AMMETERS Internal Thermocouple Type		135	137		35	37		39		
0-1	.343	1901	1980*	\$14.10	670	750*	\$15.00	870	\$17.25	
0-1.5	.200	1910	2000	14.10	680	770	15.00	880	17.25	
0-2	.120	1920	2010*	14.10	690	780*	15.00	890	17.25	
0-2.5	.10	1930	2030	14.10	700	800	15.00	900	17.25	
0-3	.08	1940	2040*	14.10	710	810*	15.00	910	17.25	
0-5	.045	1950	2060*	14.10	720	830*	15.00	920	17.25	
0-8	.031	1960	2080	14.10	730	850	15.00	930	17.25	
0-10	.023	1970	2090	14.10	736	860	15.00	940	17.25	
RF MILLIAMMETERS 10-100 Linear Scale		MODELS			MODELS			MODEL		
					35	37		39		
0-115	4.0	—	—	—	5250	5290	\$28.35	5330	\$29.85	
0-150	4.5	—	—	—	5260	5300	18.00	5340	20.40	
0-250	3.5	—	—	—	5270	5310	18.00	5350	20.40	
0-500	.63	—	—	—	5280	5320	18.00	5360	20.40	
WATTMETERS Dynamometer Type Single Phase Maximum		MODELS			MODELS			MODEL		
Range	Volts	Amps			175	177		75	77	
0-75	150	1.0	10790	10860	\$26.25	10580	10650	\$27.60	10720	\$33.90
0-150	150	2.0	10800	10870	26.25	10590	10660	27.60	10730	33.90
0-300	150	4.0	10810	10880	26.25	10600	10670	27.60	10740	33.90
0-750	150	10.0	10830	10900	26.25	10620	10690	27.60	10760	33.90
0-600	300	4.0	10820	10890	28.65	10610	10680	30.00	10750	36.45
0-1500	300	10.0	10840	10910	28.65	10630	10700	30.00	10770	36.45
0-3000	300	20.0	10850	10920	28.65	10640	10710	30.00	10780	36.45
COMPENSATED WATTMETERS Single Phase Maximum		MODELS			MODELS			MODEL		
Range	Volts	Amps				75	77		79	
0-10	300	.175	—	—	—	10642	\$44.10	10712	\$45.75	
0-20	300	.400	—	—	—	10644	44.10	10714	45.75	
0-20	500	.175	—	—	—	10646	44.10	10716	45.75	
0-30	300	.650	—	—	—	10645	44.10	10715	45.75	
0-30	500	.300	—	—	—	10648	44.10	10718	45.75	
0-50	500	.500	—	—	—	10649	44.10	10719	45.75	
DC GALVANOMETERS Scale Sensitivity Res. Micro-Amps. Ohms		MODELS			MODELS			MODEL		
		125	127		25	27		29		
50-0-50	500-0-500	46	3670	3690	\$12.75	3630	3650	\$13.20	3654	\$14.85
50-0-50	75-0-75	2000	3660	3680	13.65	3620	3640	15.00	3652	15.45

*These 2½" and 3½" rectangular instruments are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb, for an additional cost of \$3.45 dealer's net.



2½" Model 135



2½" Model 137

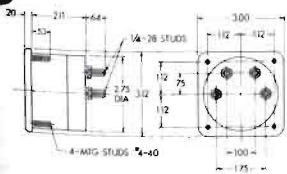
SPECIFICATIONS

SIZE	MODEL NUMBER	ACCURACY	SCALE LENGTH
2½"	125, 127, 135, 137	±2% of full scale (Compensated wattmeters ±3%)	1.8" (45.7 mm)
	155, 157		1.6" (41.1 mm)
	175, 177		2.5" (63.7 mm)
3½"	25, 27, 35, 37		2.3" (57.4 mm)
	55, 57		3.8" (97 mm)
	75, 77		3.5" (89.0 mm)
4½"	29, 39		
	59		
	79		

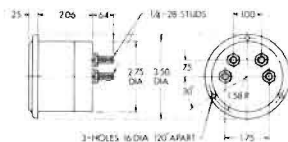
RANGE	APPROX. IMPEDANCE (Ohms) @ 60 cps	2½" CASE STYLES CATALOG NOS. PRICE		3½" CASE STYLES CATALOG NOS. PRICE		4½" CASE STYLES CAT. NO. PRICE	
AC VOLTMETERS Iron Vane Type Meter Movement		MODELS 155 157		MODELS 55 57		MODEL 59	
0-1.5	3	9230	9370 \$11.70	8390	8530 \$12.45	8710	\$14.10
0-3	12	9240	9380 11.70	8400	8540 12.45	8720	14.10
0-5	33	9250	9390 11.70	8410	8550 12.45	8730	14.10
0-10	133	9260	9400* 11.70	8420	8566* 12.45	8740	14.10
0-15	300	9270	9420* 11.70	8430	8580* 12.45	8750	14.10
0-25	833	9280	9440 12.15	8440	8599 12.75	8760	14.10
0-50	3,333	9290	9450 12.15	8450	8610 12.75	8770	14.10
0-100	16,666	9300	9460 13.20	8460	8620 13.80	8780	14.70
0-150	25,000	9310	9470* 12.90	8470	8630* 13.65	8790	14.85
0-250	41,166	9320	9490 12.90	8480	8650 13.65	8800	14.85
0-300	50,000	9330	9500* 12.90	8490	8660* 13.65	8810	14.85
0-500	83,333	9340	9520 17.40	8500	8680 17.70	8820	18.30
0-750	125,000	9350	9530 19.20	8510	8690 19.35	8830	20.10
0-1000	166,666	9360	9532 20.70	8520	8700 20.85	8840	21.75
AC AMMETERS Iron Vane Type Meter Movement		MODELS 155 157		MODELS 55 57		MODEL 59	
0-1	.287	2100	2270 \$11.55	950	1120 \$12.15	1290	\$14.40
0-1.5	.185	2110	2280 11.55	960	1130 12.15	1302	14.40
0-2	.115	2120	2290 11.55	970	1140 12.15	1310	14.40
0-3	.027	2130	2300 11.55	980	1145 12.15	1320	14.40
0-5	.012	2140	2310 11.55	990	1160 12.15	1330	14.40
0-10	.003	2150	2320 11.55	1001	1170 12.15	1340	14.40
0-15	.0022	2160	2330 11.55	1010	1180 12.15	1350	14.40
0-25	.0003	2170	2340 11.85	1020	1190 12.45	1360	15.00
0-30	.0003	2180	2350 11.85	1030	1200 12.45	1370	15.00
0-50	.0006	2190	2360 11.85	1040	1210 12.45	1380	15.00
0-75	.0005	—	—	3432	3434 13.20	3436	15.75
0-75	.012	2200	2370 11.55	1050	1220 12.15	1390	14.40
0-100	.012	2210	2380 11.55	1060	1230 12.15	1400	14.40
0-150	.012	2220	2390 11.55	1070	1240 12.15	1410	14.40
0-200	.012	2230	2400 11.55	1080	1250 12.15	1420	14.40
0-250	.012	2240	2410 11.55	1090	1260 12.15	1430	14.40
0-300	.012	2250	2420 11.55	1100	1270 12.15	1440	14.40
0-500	.012	2260	2422 11.55	1110	1280 12.15	1450	14.40
AC MILLIAMMETERS Iron Vane Type Meter Movement		MODELS 155 157		MODELS 55 57		MODEL 59	
0-10	2,000	6030	6100 \$11.55	5370	5440 \$12.15	5510	\$14.40
0-15	875	6040	6110 11.55	5380	5499 12.15	5520	14.40
0-25	390	6050	6120 11.55	5390	5460 12.15	5530	14.40
0-50	80	6060	6130 11.55	5400	5470 12.15	5540	14.40
0-100	20	6070	6140 11.55	5410	5480 12.15	5550	14.40
0-250	5	6080	6150 11.55	5420	5490 12.15	5560	14.40
0-500	.9	6090	6152 11.55	5430	5500 12.15	5570	14.40

*External Multipliers, Model 183 (Featured on back page) are furnished AC on meters having a range of 500 volts or higher; on 2½" DC meters 750 volts or higher; and on 3½" and 4½" DC meters 1000 volts and higher. All others are self-contained.

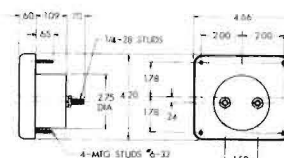
†2½" AC ammeters are self-contained through 50 amps. 3½" and 4½" AC ammeters self-contained through 75 amps. Higher range AC ammeters are 5 amp meters to be used with external current transformer. See listing on back cover.



3½" Model 77

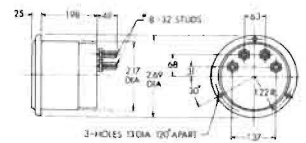


3½" Model 75

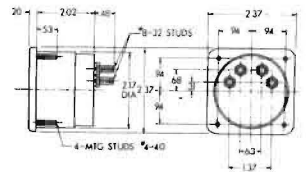


4½" Model 59

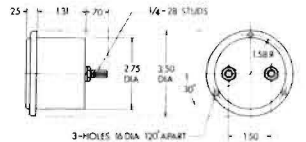
DIMENSIONS



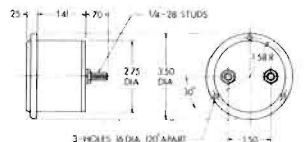
2½" Model 175



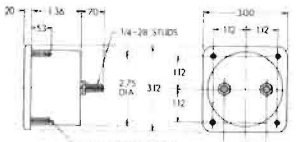
2½" Model 177



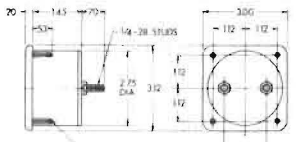
3½" Models 25, 35, 45



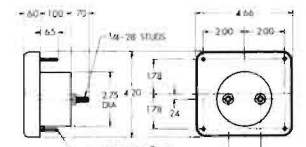
3½" Model 55



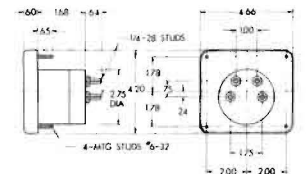
3½" Models 27, 37, 47



3½" Model 57



4½" Models 29, 39, 49



4½" Model 79

Simpson

INSTRUMENTS THAT STAY ACCURATE

2½", 3½", 4½", 6"
• ROUND and
• RECTANGULAR
STOCK METERS



2½" Model 145

3½" Model 45



2½" Model 147

3½" Model 47



4½" Model 49



6" Model 1150-1
 1% Meter supplied
 with Mirror Scale

SIMPSON STOCK METER RANGES AND PRICES

CALIBRATION AND DIALS—DC meters have the Simpson self-shielding movement and may be used on either magnetic or non-magnetic panels. Rectifier type meters have the Simpson external magnet movement, calibrated for non-magnetic panel. When ordering external magnet meters to be used on steel panels, state panel thickness and add \$1.65 to list price shown below*for re-calibration. As an accommodation, Simpson maintains a large supply of special dials that can be substituted for most dials listed on this page, add \$1.65 to list prices shown. Write to the factory for availability on special dials before ordering.

SPECIFICATIONS

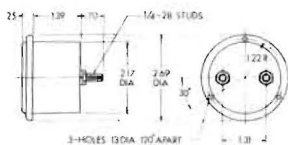
SIZE	MODEL NO.	ACCURACY	SCALE LENGTH
2½"	145, 147	DB and Rectifier type meters ±3% of full scale @ 25°C. and 60 cycle sine wave VU meters per ASA specifications	1.8" (45.7 mm)
3½"	45, 47		2.5" (63.7 mm)
4½"	49, 142		3.8" (97 mm)
6"	1150,	±2% of full scale	4.6" (114.8 mm)
	1150-1	±1% of full scale, mirrored scale	

RANGE	RESISTANCE (Ohms)	2½" CASE STYLES CATALOG NOS. PRICE			3½" CASE STYLES CATALOG NOS. PRICE			4½" CASE STYLE CAT. NO. PRICE	
AC VOLTMETERS Rectifier Type					MODELS 45 47			MODEL 49	
0-1	2000 ohms per volt	—	—	—	7940	8120	\$18.75	8300	\$20.55
0-3		—	—	—	7950	8130	18.75	8310	20.55
0-5		—	—	—	7960	8140	18.75	8320	20.55
0-10		—	—	—	7970	8150	18.75	8330	20.55
0-15		—	—	—	7980	8160	18.75	8340	20.55
0-50		—	—	—	7990	8170	18.75	8350	20.55
0-100		—	—	—	8000	8180	18.75	8360	20.55
0-150		—	—	—	8010	8190	18.75	8370	20.55
0-300		—	—	—	8020	8200	18.75	8371	20.55
AC MILLIAMMETERS Rectifier Type					MODELS 45 47			MODEL 49	
0-1	600	—	—	—	6820	6850	\$18.00	6880	\$19.50
0-2	400	—	—	—	6830	6860	18.00	6890	19.50
0-5	200	—	—	—	6840	6870	18.00	6900	19.50
AC MICROAMMETERS Rectifier Type					MODELS 45 47			MODEL 49	
0-100	3400	—	—	—	4080	4120	\$20.55	4160	\$22.05
0-200	2400	—	—	—	4090	4130	18.15	4170	19.80
0-300	1800	—	—	—	4100	4140	18.00	4180	19.50
0-500	1200	—	—	—	4110	4150	17.70	4190	19.20
Volume Level Indicators DECIBEL METERS Zero Power Level 6 MW 500 Ohm Line		MODELS 145 147			MODELS 45 47			MODEL 49	
GENERAL PURPOSE TYPE — 10 to + 6 db 5000 ohms		3470	3480	\$18.30	3440	3450	\$18.45	3460	\$20.10
HIGH SPEED TYPE — 10 to + 6 db 5000 ohms		—	—	—	3490	3500	20.40	3510	21.75
LOW SPEED TYPE — 10 to + 6 db 5000 ohms		—	—	—	3520	3530	20.25	3540	21.15
Volume Level Indicators VU METERS† Reference Level 1 MW 600 Ohm Line					MODELS 45 47			MODEL 142	
"A" SCALE; Not Illuminated		—	—	—	10440	10450	\$22.35	10460	\$24.15
"B" SCALE; Not Illuminated		—	—	—	10510	10520	22.35	10530	24.15
"A" SCALE; Illuminated		—	—	—	—	—	—	10470	26.70
"B" SCALE; Illuminated		—	—	—	—	—	—	10540	26.70

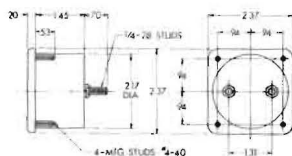
†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses per cent use of transmitter output and is the standard for broadcast service.

†Scale: 3900 ohms.

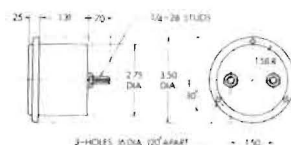
DIMENSIONS



2 1/2" Model 145



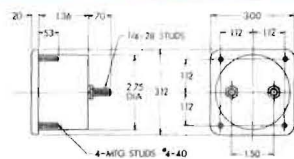
2 1/2" Model 147



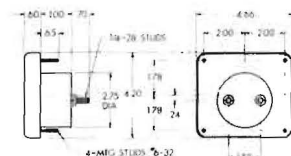
3 1/2" Model 45

6" RECTANGULAR CASE STYLE—MODELS 1150 1% and 2% Tolerance

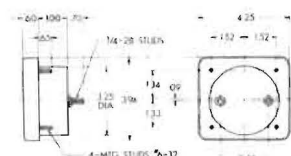
RANGE	RESISTANCE (Ohms)	CAT. NO.	PRICE	RANGE	RESISTANCE (Ohms)	CAT. NO.	PRICE
DC VOLTMETERS 2%			MODEL 1150	DC MILLIAMMETERS 2%			MODEL 1150
0-10	1000 OHMS	9533	\$18.90	0-1	46	6153	\$18.90
0-25		9534	18.90	0-10	10	6154	18.90
0-50		9535	18.90	0-50	2.0	6155	18.90
0-100	PER VOLT	9536	18.90	0-100	1.0	6156	18.90
0-150		9537	18.90	0-500	.2	6157	18.90
0-300		9538	18.90				
0-500	2000 Ω/V	9539	19.50	DC MILLIAMMETERS 1% Mirrored Scale			MODEL 1150-1
				0-1	46	6158	\$23.85
				0-100	1.0	6161	23.85
				0-500	.2	6162	23.85
DC MILLIVOLTMETERS 2%			MODEL 1150	DC MICROAMMETERS 2%			MODEL 1150
0-50	10	7003	\$19.65	0-15	5500	4282	\$29.95
				0-25	5500	4283	26.85
				0-50	5000	4284	24.45
DC AMMETERS 2%			MODEL 1150	0-100	2800	4285	23.40
0-1	.050	2424	\$19.65	0-200	1200	4286†	20.40
0-5	.010	2425	19.65	0-500	200	4287†	19.80
0-10	.005	2426	19.65	DC MICROAMMETERS 1% Mirrored Scale			MODEL 1150-1
0-15	.0033	2427	19.65	0-50	5000	4290	\$29.40
0-25	.0020	2428	19.65	0-100	2800	4291	28.35
0-30	.0016	2429	19.65	0-200	1200	4292	25.35
0-50	.001	2430	19.65	0-500	200	4293	24.75



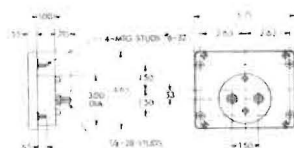
3 1/2" Model 47



4 1/2" Model 49



4 1/2" Model 142



6" Model 1150

3 1/2" ELAPSED TIME PANEL METERS

Widely used by research labs, manufacturing plants, broadcasting stations . . . to keep life and performance records based on operating time. These meters use self-starting synchronous clock motors. They indicate up to 99999.9, then recycle and begin again at 00000.0.

Molded bakelite case similar to the Simpson 3 1/2" rectangular and round meters. Case depth—2 3/16".

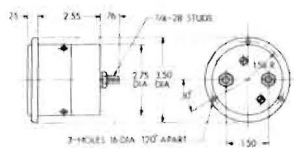
RANGE	MODEL 55ET CAT. NO.	PRICE	MODEL 57ET CAT. NO.	PRICE
120V-60 cps	3580	\$18.85	3590	\$18.85
240V-60 cps	3600	19.15	3610	19.15



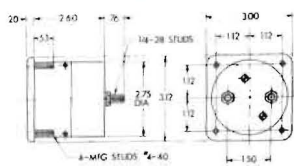
3 1/2" Model 55ET



3 1/2" Model 57ET



3 1/2" Model 55ET

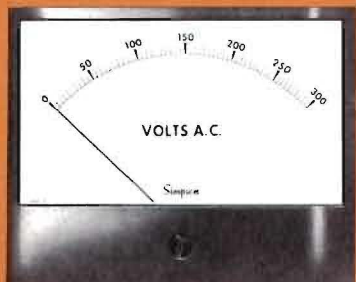
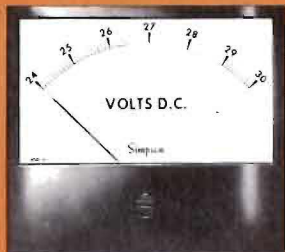


3 1/2" Model 57ET

MANUFACTURERS OF THE WORLD FAMOUS 260°

SIMPSON ELECTRIC COMPANY

• SQUARE
• RECTANGULAR
STOCK METERS



Technical drawing of a 40NC 2 1/4 stub. The drawing shows a side view of the stub with various dimensions and labels. Key dimensions include: overall width 3.25, overall height 50, and a central circular feature with a diameter of 2.25. The stub is labeled "40NC 2 1/4 STUBS" and "1/4-28UNF-2A STUBS WITH 1 LOOSE NUT AND 1 WISE WRIGHT". Other dimensions shown are 1.12, 1.32, 1.00, 2.25, 1.52, 2.69 D.A., 1.94, 1.23, 41, and 50.

4" x 6" Models 3326, 3346

1½", 2½" EDGEWISE PANEL METERS



INSTRUMENTS THAT STAY ACCURATE

Where your panel design calls for making every square inch count . . . or where saving weight is important, these new Simpson Edgewise Meters solve many design problems.

Edgewise Meters are supplied complete with mounting hardware, including Bezel with two nuts for quick, simple mounting.

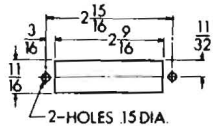
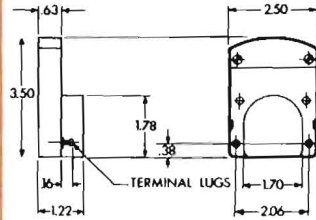
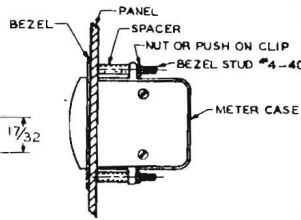
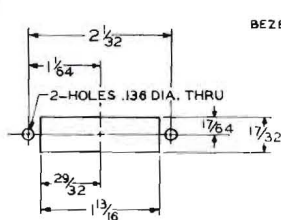
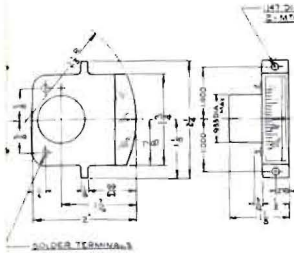
- Self-Shielded Meter Movement.
- Require only ½ the panel area of a conventional 2½" Meter.
- Scale length comparable to a 2½" Meter.
- Accurate comparative readings by mounting Meters next to each other.

SPECIFICATIONS

Accuracy—DC $\pm 2\%$ of full scale.
AC Rectifier Type $\pm 3\%$ of full scale.
@25° and 60 cycle Sine Wave.

Types—Direct current—AC Rectifier.
1½"—1¾" Scale length
2½"—1¾" Scale length

Case—Dustproof, molded acrylic.
Standard Scale—Black numbers on a white background.
Terminals—Solder (ammeters—stud type).
Weight—approximately 5 ounces.



RANGE	APPROX. RESISTANCE (Ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE
DC VOLTMETERS Self-Shielding Meter Movement		MODEL 1521	MODEL 1522
0-10	1000 Ω /volt	10354 \$13.95	10360 \$15.00
0-15	1000 Ω /volt	10355 13.95	10370 15.00
0-25	1000 Ω /volt	10356 13.95	10375 15.00
0-50	1000 Ω /volt	10357 13.95	10380 15.00
0-100	1000 Ω /volt	—	10385 15.00
0-150	1000 Ω /volt	10358 13.95	10390 15.00
0-300	1000 Ω /volt	—	10400 15.00
0-500	2000 Ω /volt	10359 14.10	10410 15.15

RANGE	APPROX. RESISTANCE (Ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE
DC MILLIAMMETERS Self-Shielding Meter Movement		MODEL 1521	MODEL 1522
0-1	20	6811 \$13.80	6710 \$14.85
0-5	2.5	6812 13.80	6720 14.85
0-10	13.5	—	6730 14.85
0-15	9.0	—	6735 14.85
0-25	5.4	6815 14.40	6740 15.45
0-50	2.7	6816 14.40	6750 15.45
0-100	1.35	6817 14.40	6760 15.45
0-150	.9	—	6770 15.45
0-200	.675	6818 14.40	6780 15.45
0-250	.54	—	6790 15.45
0-300	.45	—	6800 15.45
0-500	.27	6819 14.40	6810 15.45

RANGE	APPROX. RESISTANCE (Ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE
DC AMMETERS Self-Shielding Meter Movement		MODEL 1521	MODEL 1522
0-1	.050	—	3387 \$15.75
0-5	.010	—	3390 15.75
0-10	.005	—	3400 15.75
0-15	.0033	—	3410 15.75
0-25	.002	—	3420 15.75
0-50	.001	—	3430 15.75

RANGE	APPROX. RESISTANCE (Ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE
DC MILLIVOLTMETERS Self-Shielding Meter Movement		MODEL 1521	MODEL 1522
0-50	10 Ω	0713 \$14.70	07011• \$15.75

RANGE	APPROX. RESISTANCE (Ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE
DC MICROAMMETERS Self-Shielding Meter Movement		MODEL 1521	MODEL 1522
0-25	3150	4552 \$21.15	4560 \$22.20
0-50	1800	4553 18.45	4570 19.50
0-100	1100	4554 16.35	4580 17.40
0-200	290	4555 14.70	4590 15.75
0-500	90	4556 14.25	4600 15.30

RANGE	APPROX. RESISTANCE (Ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE
VOLUME LEVEL INDICATORS VU METERS Self-Shielding Meter Movement		MODEL 1521	MODEL 1522
"A" SCALE	—	—	10500 \$24.75
"B" SCALE	—	—	10570 24.75

RANGE	APPROX. RESISTANCE (Ohms)	1½" CASE STYLE CAT. NO. PRICE	2½" CASE STYLE CAT. NO. PRICE
AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement		MODEL 1541	MODEL 1542
0-150	1000 Ω /volt	10415 \$18.15	10420 \$19.20
0-300	1000 Ω /volt	—	10430 19.20

Simpson

SIMPSON ELECTRIC COMPANY

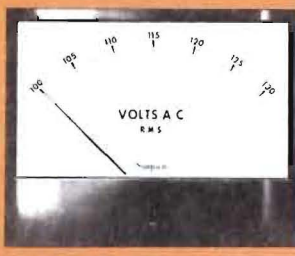
RUGGED-SEAL
SEGMENTAL
STOCK METERS



2 1/2", 3 1/2", 4 1/2" Models



3 1/2", 4 1/2" Models



4" x 8" Models

WIDE-VUE AND BAKELITE
SEGMENTAL VOLTMETERS
Single, Multi-Range



3 1/2" Model 1347



MULTI-RANGE 4 1/2" Model 1349



4 1/2" Model 49

SIMPSON AVERAGE SENSING, TRUE RMS and DC PANEL INSTRUMENTS

Segmental Voltmeters and frequency meters make it possible to measure very small changes in input conditions.

The significant portion of the overall voltage or frequency range is expanded to occupy the full scale length, thus only that segment of the range that is important appears. In addition to the standard expansions and accuracies shown, special segmental voltmeters can be built on order. Write the factory for a quotation.

The A.C. segmental voltmeters are available in either average sensing or true R.M.S. sensing units. When working with sine wave currents or when other measurements will be made with average sensing equipment, the average sensing meters are preferred.

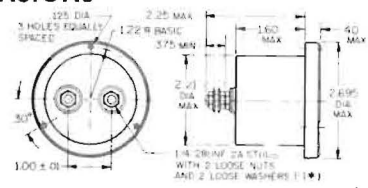
When working with distorted waveforms, as would be encountered in constant voltage transformers, S.C.R. circuits, D.C. to A.C. solid state inverters or similar equipment, the true R.M.S. sensing meter would probably be preferred.

GENERAL SPECIFICATIONS

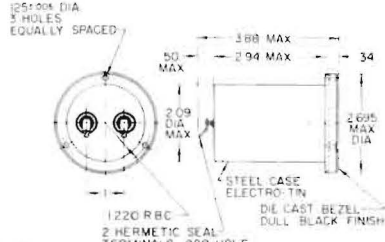
WIDE-VUE and BAKELITE CASE STYLES			RUGGED-SEAL and RUGGEDIZED METAL CASE STYLES				
AVERAGE SENSING AC SEGMENTAL VOLTMETERS			RMS SENSING AC SEGMENTAL VOLTMETERS			DC SEGMENTAL VOLTMETERS	FREQUENCY METERS
SINGLE RANGE			MULTI-RANGE*				
RANGE	100-130 AC Volts	100-130 200-260 400-520	100-130 AC Volts	105-125 AC Volts	110-120 AC Volts	—	—
ACCURACY (% OF CENTER SCALE VALUE)	±.5%	100-130 ±.5% 200-260 ±.75% 400-520 ±.75%	±1.0%	±.5%	±.3%	±.5%	±.25%
FREQUENCY RANGE	20-2000 CPS	50-1000 CPS	55-550 CPS			—	—
CENTER SCALE VALUE	115 Volts	115/230/460 Volts	115 Volts	115 Volts	115 Volts	27 Volts	60 CPS 400 CPS
SENSITIVITY OR POWER CONSUMPTION	.6 to 1.3 VA (Sensitivity decreases as input voltage increases)		50 OPV	65 OPV	80 OPV	100 OPV	3 VA Max.
MAX. INPUT VOLTAGE (10 SECONDS)	150 Volts RMS	150/300/600 Volts RMS	150 Volts RMS			40 Volts	140 Volts RMS
SQUARE WAVE WAVEFORM INFLUENCE	11%		2.5%	2.0%	1.0%	—	.1%
TRIANGULAR WAVE	5%		1.2%	.6%	.3%	—	.1%
MOVEMENT TYPE	Self Shielding		Shielded External Magnet				

*Supplied with external potential transformer

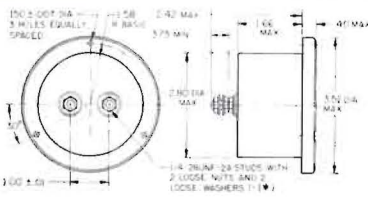
DIMENSIONS



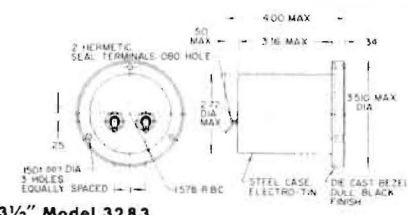
2 1/2" Model 3222



2 1/2" Model 3282

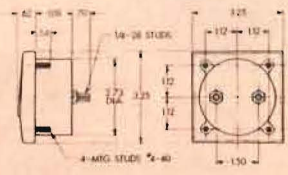


3 1/2" Model 3223

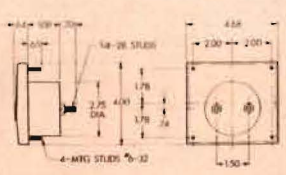


3 1/2" Model 3283

WIDE-VUE and BAKELITE



3 1/2" Model 1347



4 1/2" Model 1349

External Po
Transformer

STOCK PANEL METER RANGES AND PRICES

ROUND RUGGEDIZED SEGMENTAL PANEL METERS

ROUND PANEL METERS			2 1/2"		3 1/2"		4 1/2"	
Range	Center Scale Value	Accuracy	CASE STYLE CAT. NO.	PRICE	CASE STYLE CAT. NO.	PRICE	CASE STYLE CAT. NO.	PRICE
AC VOLTMETERS			MODEL 3282		MODEL 3283		MODEL 3284	
100-130	115V	1.0%	16285•	\$ 70.00	16305•	\$ 64.50	16335•	\$ 71.50
105-125	115V	0.5%	16290•	70.00	16310•	64.50	16340•	71.50
110-120	115V	0.3%	16295•	70.00	16315•	64.50	16345•	71.50
DC VOLTMETERS			MODEL 3222		MODEL 3223		MODEL 3224	
24-30	27V	0.5%	16300•	\$ 60.00	16320•	\$ 54.60	16350•	\$ 61.50
FREQUENCY METERS†					MODEL 3283		MODEL 3284	
cps 57-63	cps 60	0.25%	—	—	16325•	\$152.50	16355•	\$159.50
380-420	400	0.25%	—	—	16330•	152.50	16360•	159.50

SQUARE RUGGED-SEAL SEGMENTAL PANEL METERS

SQUARE PANEL METERS			3 1/2"		4 1/2"		4" x 6"	
Range	Center Scale Value	Accuracy	CASE STYLE CAT. NO.	PRICE	CASE STYLE CAT. NO.	PRICE	CASE STYLE CAT. NO.	PRICE
AC VOLTMETERS			MODEL 3383		MODEL 3384		MODEL 3386	
100-130	115V	1.0%	16365•	\$ 59.00	16395•	\$ 65.00	16425•	\$ 69.50
105-125	115V	0.5%	16370•	59.00	16400•	65.00	16430•	69.50
110-120	115V	0.3%	16375•	59.00	16405•	65.00	16435•	69.50
DC VOLTMETERS			MODEL 3323		MODEL 3324		MODEL 3326	
24-30	27V	0.5%	16380•	\$ 49.20	16410•	\$ 55.20	16440•	\$ 59.40
FREQUENCY METERS†			MODEL 3383		MODEL 3384		MODEL 3386	
cps 57-63	cps 60	0.25%	16385•	\$148.25	16415•	\$153.00	16445•	\$157.50
380-420	400	0.25%	16390•	148.25	16420•	153.00	16450•	157.50

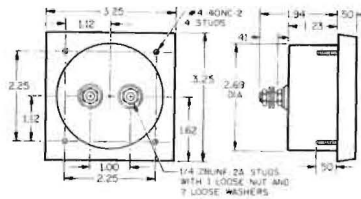
BAKELITE SEGMENTAL PANEL METERS • Single, Multi-Range

AC VOLTMETERS			3 1/2"		4 1/2"	
Range	Center Scale Value	Accuracy	CASE STYLE CAT. NO.	PRICE	CASE STYLE CAT. NO.	PRICE
100-130	115 V	.5%	MODEL 1347	\$40.80	MODEL 1349	\$40.95
100-130	115 V	.5%	—	—	—	—
200-260	230 V	.75%	—	—	10157•	\$50.60
400-520	460 V	.75%	—	—	MODEL 49	\$40.50

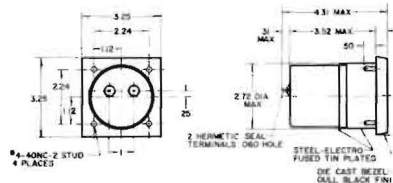
*Accuracy is in percent of center scale value.
†Frequency meters are checked @ the center scale frequency @ 25°C and 115 volts sine wave after 30 minute warmup. Accuracy after 1.0 minute warmup is 1.0%. At end scale indications, maximum error will be 0.5%.

• NEW MODEL ADDITION

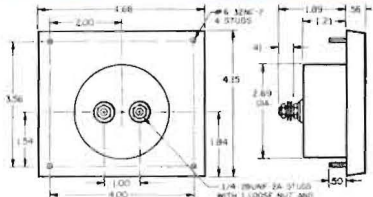
DIMENSIONS



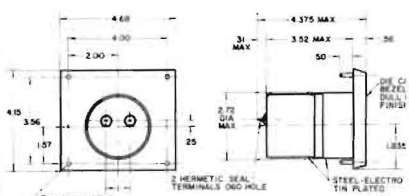
3 1/2" Model 3323



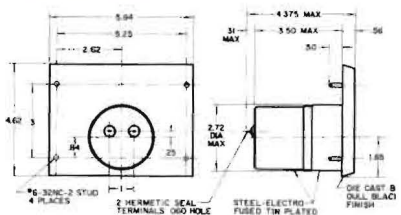
3 1/2" Model 3383



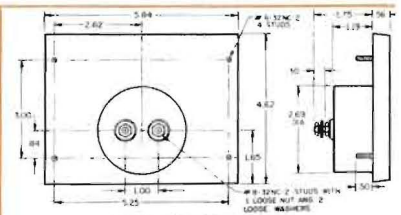
4 1/2" Model 3324



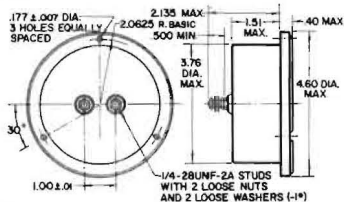
4 1/2" Model 3384



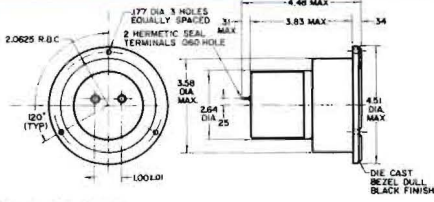
4" x 6" Model 3326



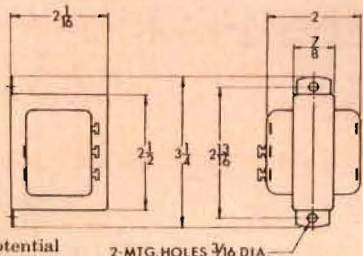
4" x 6" Model 3386



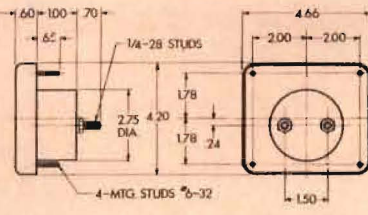
4 1/2" Model 3224



4 1/2" Model 3284



External Potential Transformer 4 1/2" Model 49



4 1/2" Model 49

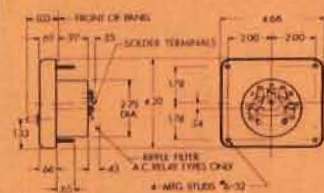
Simpson

SIMPSON ELECTRIC CO. 15

DIMENSIONS



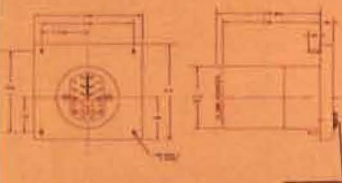
Contact Type
4½" Model 29XA



4½" Model 29XA



Contactless Type
4½" Model 3324XA



4½" Model 3324XA

- New Model Additions.

GLOSSARY OF TERMS

INSTRUMENTS THAT STAY ACCURATE

The information in this section is intended to give a basic understanding of the terms commonly used in the Electrical Indicating Instrument Industry. Some of the information, as noted*, has been reproduced with permission from the American Standards Association.

ACCURACY TOLERANCE

The measure of a meter's ability to provide indications corresponding to the absolute value of electrical energy applied.

Accuracy is customarily expressed as a percentage of full scale value (see Note 1). To determine the degree of accuracy of a meter at a given point, the rated full scale value, the actual value of energy applied and the value indicated by the meter must be known.

Note 1. Full scale value in meters with zero at a point other than end scale is the arithmetic sum of the two end scale values.

The formula for expression of a meter's accuracy, in percent of full scale, at a point is:

$$\text{Accuracy} = \frac{I - A}{F.S.} \times 100$$

I = Value Indicated by Meter

A = Actual Value of energy applied to meter

F.S. = Rated full scale value of meter

Note: Disregard the sign in determining the degree of accuracy.

Examples: A 0-5 milliamp meter has a current of 4.30 milliamps applied to it. The meter reads 4.25 milliamps. The meter accuracy at that point is:

$$1. \% \text{ Accuracy} = \frac{4.25 - 4.30}{5.00} \times 100$$

$$2. \% \text{ Accuracy} = \frac{.05}{5.00} \times 100$$

$$3. \% \text{ Accuracy} = .01 \times 100$$

$$4. \text{ Accuracy} = 1.0\%$$

A 5-0-10 voltmeter has 7.0 volts applied to it. The meter reads 7.2 volts. The meter accuracy at that point is:

$$1. \% \text{ Accuracy} = \frac{7.2 - 7.0}{5 + 10} \times 100$$

$$2. \% \text{ Accuracy} = \frac{.2}{15} \times 100$$

$$3. \% \text{ Accuracy} = .0133 \times 100$$

$$4. \text{ Accuracy} = 1.33\%$$

AIR DAMPED

A construction utilizing an air vane to achieve movement damping. This vane is usually housed in a closed chamber to increase the damping action.

AVERAGE VOLTAGE

The sum of the instantaneous voltages in a half cycle wave shape divided by the number of instantaneous voltages. In a sine wave, the average voltage is equal to 0.637 times the peak voltage.

BALANCE (Position Influence)*

Position influence is the change in the indication of an instrument which is caused solely by a position departure from the normal operating position.

DAMPING

Damping of an instrument is the term applied to its performance to denote the manner in which the pointer settles to its steady indication after a change in the value of the measured quantity.

Two general classes of damped motion are distinguished as follows:

- Periodic, in which the pointer oscillates about the final position before coming to rest.
- Aperiodic, in which the pointer comes to rest without overshooting the rest position. Sometimes referred to as overdamping.

The point of change between periodic and aperiodic damping is called critical damping.

Note: An instrument is considered to be critically damped when overshoot is present but does not exceed an amount equal to one half the rated accuracy of the instruments.

DAMPING FACTOR

The ratio of the steady deflection to the difference between maximum momentary deflection and steady deflection. The deflections are produced by sudden application of a constant value of electrical energy and are measured in angular degrees. Unless otherwise specified, end scale deflection is used as maximum momentary deflection. To determine the damping factor, the total angular deflection from zero to end scale must be known.† These angles can then be substituted in the formula:

$$\text{Damping Factor} = \frac{D_s}{D_m - D_s}$$

Where: D_s = Steady state deflection in angular degrees

D_m = End scale deflection in angular degrees

†In linear scale meters, very close approximations can be made using the scale graduations to determine the deflection angles.

Example: A 0-100 D.C. voltmeter has a current suddenly applied that causes a momentary end scale deflection. After the pointer settles to a rest position, the meter reads 82 volts. The damping factor is:

$$1. DF = \frac{82}{100 - 82}$$

$$2. DF = \frac{82}{18}$$

$$3. DF = 4.5$$

DECIBEL OR D.B.

A decibel is a logarithmic unit for the expression of the ratios of two amounts of power. The number of decibels denoting such a ratio is equal to 10 times the LOG_{10} of the ratio.

$$N = 10 \text{ LOG}_{10} \frac{P_1}{P_2}$$

N = Number of Decibels

P_1 = Initial Power Level

P_2 = New Power Level

END SCALE VALUE*

The end scale value of an instrument is the value of the actuating electrical quantity that corresponds to end scale indication. When zero is not at the end or at the electrical center of the scale, the higher value is taken.

Note: Certain instruments such as power-factor meters, ohmmeters, etc. are necessarily excepted from this definition.

EXPANDED SCALE METER

A meter in which the ratio of deflection per unit of applied energy becomes greater as the energy approaches a specified value.

FREQUENCY INFLUENCE†

The change in indication due solely to a frequency change of the applied energy from a specified frequency.

Frequency influence is usually expressed as a percentage change of full scale value** for a specified frequency change.

†Does not apply to frequency meters.

**The full-scale value is equal to the largest value of the actuating electrical quantity which can be indicated on the scale or, in the case of instruments having their zero between the ends of the scale, the full scale value is the arithmetic sum of the values of the actuating electrical quantity corresponding to the two ends of the scale.

*This material is reproduced from the American Standard Requirements for Electrical Indicating Instruments, C39.1--1959, copyrighted by ASA, copies of which may be purchased from the American Standards Association at 10 East 40th Street, New York 16, New York.

FRICITION

The difference between tapped and untapped meter readings due to the combination of pivot friction and pivot roll. Friction is usually checked by making a substantial change in the applied energy (5-10%) at a sufficiently slow rate so that no overshoot occurs. The meter indication is then noted and, maintaining the same energy level, the meter is tapped. The difference between the two indications is the friction error. It is customary to express the error as a percentage of full scale value.

Since friction is influenced by meter position, the position(s) in which the observation is made must be stated.

FULL SCALE VALUE*

The full scale value is equal to the largest value of the actuating electrical quantity which can be indicated on the scale or, in the case of instruments having their zero between the ends of the scale, the full-scale value is the arithmetic sum of the values of the actuating electrical quantity corresponding to the two ends of the scale.

Note: Certain instruments such as power-factor meters, ohmmeters, etc. are necessarily excepted from this definition.

IMPEDANCE

The apparent resistance, expressed in ohms, offered by an alternating current circuit to the passage of electrical energy.

Since frequency is one of the factors affecting impedance, the frequency of applied energy must be specified.

LOGARITHMIC SCALE METER

A meter having deflections proportional to the logarithms of the applied energies.

MAGNETIC INFLUENCE*

The magnetic-platform influence is the change in indication caused solely by the presence of a magnetic platform on which the instrument is placed.

Note: For the purposes of this standard, the influence is determined as the percentage change in indication when the instrument is placed in its normal operating position on a demagnetized steel plate, extending at least 6 inches beyond the instrument on all sides, and at least 0.25 inch thick as compared with its indication when isolated from extraneous magnetic material.

MAGNETICALLY DAMPED

Meters in which the damping is achieved by moving a metal vane through a magnetic field. This motion induces currents in the vane which sets up magnetic fields opposing those of the stationary magnets thus tending to bring the pointer to rest. This type of damping is found in many quality moving iron and dynamometer type instruments.

METER RESISTANCE

Resistance of the meter as measured at the terminals at a given reference temperature.

When applied to rectifier type meters, the frequency and wave shape of the applied energy, as well as the indicated value at which the measurement is to be made, must be specified.

Normally, the resistance of a rectifier type meter is measured by the voltage doubling method, outlined below:

The meter is energized to the chosen scale position at which the resistance is to be measured. The voltage required to achieve this deflection is noted. A non-inductive, variable resistor is then connected in series with the meter and a voltage twice that of the previously noted voltage is applied. The resistor is then adjusted until the meter again deflects to the original scale position. The meter resistance is then considered to be equal to the value of the adjusted resistor.

OVERSHOOT*

Overshoot is the ratio of the overtravel of the indicator beyond a new steady deflection to the change in steady deflection when a new constant value of the measured quantity is suddenly applied. The overtravel and deflection

are determined in angular measure and the overshoot is usually expressed as a percentage.

Note 1. Since, in some instruments, the ratio depends on the magnitude of the deflection, a value corresponding to an initial deflection from zero to end scale is used in determining the overshoot for rating purposes.

PEAK VOLTAGE

The maximum value present in a varying or alternating voltage. This value may be either positive or negative.

POWER CONSUMPTION

The power necessary to produce end scale deflection of the meter. Power consumption may be expressed in wattage, resistance, voltage, volt-amperes, impedance or current.

POWER FACTOR

The cosine of the phase angle between an alternating voltage and current in an electrical circuit.

RECTIFIER TYPE INSTRUMENT

A combination of an instrument sensitive to direct current and a rectifying means whereby alternating current (or voltage) may be measured.

REPEATABILITY

The measure of a meter's ability to provide repeat readings with the application of a given energy. It is customary to express repeatability as a percentage of full scale value*.

*See definition of full scale value and end scale value in this section.

Repeatability at a point is usually measured by increasing the applied energy to a given value. The increase is made at a sufficiently slow rate so that no overshoot occurs. The meter deflection is then noted. The energy is then increased at least 10% and then slowly reduced until the given value is again reached. The new meter deflection is noted. The difference in the two deflections is the repeatability error of the unit at the given value.

A formula for determining a meter's repeatability at a given point is:

$$\text{Repeatability} = \frac{D_2 - D_1}{D_{FS}} \times 100$$

D_1 = Deflection, in angular degrees, noted after increasing energy

D_2 = Deflection, in angular degrees, noted after decreasing energy

D_{FS} = Full scale deflection in angular degrees

Example: A 90 degree meter has an energy slowly applied. When the chosen energy level is reached, a deflection of 68 degrees is observed. After increasing the energy by 10%, it is slowly reduced to the originally chosen level. A new deflection of 68.5 degrees is observed. The repeatability of the meter at the chosen value is:

$$1. \% \text{ Repeatability} = \frac{68.5 - 68.0}{90} \times 100$$

$$2. \% \text{ Repeatability} = \frac{.5}{90} \times 100$$

$$3. \% \text{ Repeatability} = \frac{50}{90}$$

$$4. \text{ Repeatability} = .555\%$$

RESPONSE TIME*

The response time is the time required after an abrupt change has occurred in the measured quantity to a new constant value until the pointer, or indicating means, has first come to apparent rest in its new position.

Note 1. Since in some instruments, the response time depends on the magnitude of the deflection, a value corresponding to an initial deflection from zero scale to end scale is used in determining the response time for rating purposes.

panel meter and test equipment needs.

Simpson 260® The World's Best Selling VOM Family



260-5P...\$78.95



Model 261...\$59.95



Roll Top
260-4RT...\$54.95
260-4MRT...\$56.95
260-5PRT...\$84.95
261-RT...\$65.95
270-2RT...\$70.95



Ever-Redy Vinyl
Carrying Case Only
#4236—\$9.75



270...\$64.95

WORLD FAMOUS 260®* AC/DC Volt-Ohm-Milliammeter

Now the world famous 260 Series 4 and 5P Volt-Ohm-Milliammeter is a better buy than ever before with these new features.

- New Self-Shielded Meter Movement.
- New Higher Accuracy $\pm 2\%$ DC, $\pm 3\%$ AC.
- New Ruggedness From Spring-Backed Jewels.
- Greater Repeatability.
- Increased Linearity and Stability.
- Input Protected with an internal 1 amp fuse.
- Mirror Scale (260-4M only).

Complete with test leads No. 7500 and operator's manual.

ROLL TOP VOMs

260-4.....	\$48.95	260-4RT.....	\$54.95
260-4M.....	\$50.95	260-4MRT.....	\$56.95

NEW PROTECTED 260 VOM

Ranges and Features—The 260-5P has the same ranges and takes the same accessories as Simpson's famous 260-4 VOM.

Combined Protection You Won't Find In Any Other VOM

1. Reset button pops out to indicate overload.
2. You cannot reset circuits while overload is present.
3. Protective circuit does *not* require massive overloads which can cause hidden damage to the instrument.
4. All ranges are protected except those not feasible in a portable instrument—1000 and 5000 volts DC and AC; 10 amp DC.

Complete with test leads No. 7500 and operator's manual.

260-5P.....	\$78.95
260-5PRT.....	\$84.95

HIGH ACCURACY 261* and 270-2* AC/DC Volt-Ohm-Milliammeters

Simpson's New Model 261 and improved 270 Series 2 VOMs blend the latest in VOM design with Simpson's strict manufacturing control. Their features include: 1. A new self-shielded hi-flux annular meter movement. 2. Spring backed jewels. 3. Special Calibration circuit that increases accuracy. 4. Diode overload protection (Prevents movement burnout even on 200,000% overload). 5. Mirror scale with knife edge pointer. 6. Input protected with an internal 1 amp fuse.

Complete with test leads No. 7500 and operator's manual.

ROLL TOP VOMs

Model 261.....	\$59.95	Model 261-RT.....	\$65.95
270-2.....	\$64.95	Model 270-2RT.....	\$70.95

® Registered with U.S. Patent Office.

VOMs

260-4; 260-4M; 261; 270-2
20,000 Ω/V DC
5,000 Ω/V AC

RANGES:	260-4, 260-4M	MODEL 261	270-2
DC VOLTS	0.25 V; 0-2.5 V; 0-10 V; 0-50 V; 0-250 V; 0-1000 V; 0-5000 V		
AC VOLTS	0-2.5 V; 0-10 V; 0-50 V; 0-250 V; 0-1000 V; 0-5000 V		
DC MICROAMPERES		0-50	
DC MILLIAMPERES		0-1; 0-10; 0-100; 0-500	
DC AMPERES		0-10	
DB SCALE (1MW-600 Ω)	-20 to +10; -8 to +22; +6 to +36; +20 to +50		
OUTPUT RANGES	0.1 mfd capacitor in series with all AC Voltage ranges through 250 Volts		
RESISTANCE RANGES	R \times 1 0-2000 Ω (12 Ω center)	R \times 100 0-200K Ω (1200 Ω center)	R \times 10K 0-20 meg Ω (120K Ω center)
ACCURACIES:			
0-250 MV; 0-2.5 to 0-1000 V DC	$\pm 2\%$ F.S.	$\pm 1.5\%$ F.S.	$\pm 1.25\%$ F.S.
0-5000 V DC	$\pm 3\%$ F.S.	$\pm 2.5\%$ F.S.	$\pm 2.25\%$ F.S.
0-50 Microamperes	$\pm 1.5\%$ F.S.	$\pm 1.0\%$ F.S.	$\pm .75\%$ F.S.
0-1 Ma to 0-10 A DC	$\pm 2\%$ F.S.	$\pm 1.5\%$ F.S.	$\pm 1.25\%$ F.S.
R \times 1	$\pm 2.5^\circ$ of Arc	$\pm 2.0^\circ$ of Arc	$\pm 1.5^\circ$ of Arc
R \times 100, R \times 10,000	$\pm 2.0^\circ$ of Arc	$\pm 1.5^\circ$ of Arc	$\pm 1.0^\circ$ of Arc
0-2.5 to 0-1000 V AC	$\pm 3\%$ F.S.	$\pm 3\%$ F.S.	$\pm 2.0\%$ F.S.
0-5000 V AC	$\pm 4\%$ F.S.	$\pm 4\%$ F.S.	$\pm 3\%$ F.S.
TEMPERATURE COMPENSATED	NO	NO	YES
MIRROR SCALE	NO YES	YES	YES
SCALE LENGTH	4.2 inches		
DIMENSIONS	5 $\frac{1}{4}$ " x 7" x 3 $\frac{3}{8}$ "		
NET WEIGHT	3 $\frac{1}{2}$ lbs.		

ACCESSORIES for 260-4/4M/261/270	Cat. No.	Price		Cat. No.	Price
10,000v High voltage probe.....	0507	\$10.20	Banana plugs and test prods.....	7538	\$ 2.5
25,000v High voltage probe.....	0508	11.50	Leather Carrying Case.....	1818	8.5
50,000v High voltage probe.....	0509	12.50	Ever-Redy Carrying Case.....	4236	9.7
Banana plugs and alligator clip.....	7500	2.10	Roll top safety case only.....	0249	9.9

*EXCLUSIVE SIMPSON ADJUST-A-VUE HANDLE

INSTRUMENTS THAT STAY ACCURATE

Note 2. The pointer is at apparent rest when it remains within a range on either side of its final position equal to one half the accuracy rating, when determined as specified in *Note 1*.

R.M.S. VOLTAGE

The effective value of a varying or alternating voltage. The effective value is that value which would produce the same power loss as if a continuous voltage were applied to a pure resistance. In sine wave voltages, the R.M.S. voltage is equal to 0.707 times the peak voltage.

SCALE LENGTH

The length of the imaginary arc described by the tip of the pointer or other indicating means used. If the pointer tip extends beyond the scale markings, the pointer shall be considered to end at the outer edge of the shortest scale mark. On multi scale instruments, the scale length shall be considered to be equal to the length of the longest scale.

SELF-CONTAINED INSTRUMENT

A self-contained instrument is one in which no accessory items are required to perform its intended functions(s)*. If not specified, a manufacturer may optionally supply either a self contained meter or one with external accessories.

*If a meter is specified "0-500 D.C. Microamperes, with scale reading 0-1000 Volts," a 500 ua meter without an internal resistor would be considered self-contained since the established intent is for the meter to operate as a microammeter.

If the specification had read, "0-1000 D.C. Volt, 2000 ohms per volt," the intent is for operation as a voltmeter. A meter having an internal resistor would be necessary to meet the specification. A 500 micro-ampere meter without an internal resistor would not be considered self-contained.

SQUARE LAW SCALE METER

A meter in which the deflection is proportional to the square of the applied energies.

SYMMETRY (Applies only to off-set zero meters)

The measure of a meter's ability to provide corresponding indications on each side of zero when the polarity of the applied energy is reversed.

Symmetry error is customarily expressed as a percentage of actual full scale value.*

*See definition of full scale value in this section.

To determine the symmetry error at a point, the actual full scale energy, the actual energy necessary to cause deflection to the selected point and the actual energy necessary to cause deflection to the corresponding point on the other side of zero must be known.

The symmetry error for a selected point or points can be determined by use of the formula:

$$\% \text{ Symmetry error} = \frac{I_x - I_y}{I_{FS}} \times 100$$

Note: Disregard the sign in determining the degree of symmetry.

I_x = Actual energy for deflection to a selected point.

I_y = Actual energy for deflection to the corresponding indication.

I_{FS} = Actual energy for full scale deflection.

Example: A 10-0-10 Voltmeter requires 10.3-0-10.6 Volts for end scale deflections. Application of 8.1 volts is necessary to produce an indication of 8.0 Volts on the right side and 8.25 volts is necessary to cause a corresponding indication on the left side. The symmetry error at the 8.0 Volt point is:

$$1. \% \text{ Symmetry Error} = \frac{8.1 - 8.25}{10.3 + 10.6} \times 100$$

$$2. \% \text{ Symmetry Error} = \frac{.15}{20.9} \times 100$$

$$3. \text{ Symmetry Error} = .72\%$$

The symmetry error at the 10.0 Volt point is:

$$1. \% \text{ Symmetry Error} = \frac{10.3 - 10.6}{10.3 + 10.6} \times 100$$

$$2. \% \text{ Symmetry Error} = \frac{.3}{20.9} \times 100$$

$$3. \text{ Symmetry Error} = 1.44\%$$

TEMPERATURE INFLUENCE

The change in indication due solely to a change in ambient temperature from a specified reference temperature.

Temperature influence is usually expressed as a percentage of full scale value (*see NOTE 1* under full scale value definition this section) for a specified temperature change.

TORQUE

A rotational moment applied to the moving system.

At a steady state deflection, the mechanically applied torque is equal and opposite to the electrically developed torque.

Torque is usually expressed in millimeter grams for a given angular deflection.

TORQUE TO WEIGHT RATIO

The ratio of the mechanical torque at a given angular deflection to the weight of the moving system. The torque may be expressed in millimeter grams at 360 degrees and the weight may be expressed in grams.

This ratio is sometimes arbitrarily referred to as the "figure of merit."

TRACKING

The ability of an instrument to indicate at the division line being checked when energized by corresponding proportional values of actual end scale excitation, expressed as a percentage of actual end scale value. The tracking error test is performed by initially setting the pointer on zero using the zero corrector, then applying sufficient excitation to produce end scale deflection precisely. The excitation is then reduced to amounts which will produce deflection to the previously selected scale markings. Tap the instrument before setting zero and before each reading.

$$\text{Tracking error } \% = \frac{I_A - I_R}{I_{ES}} \times 100$$

I_A = actual value of excitation required to produce the selected deflection

I_R = the value of excitation for the selected deflection, obtained by proportional values of actual end scale excitation

I_{ES} = actual value of excitation for end scale deflection.

VOLUME UNIT OR V.U.

A volume unit is a logarithmic unit for the expression of the ratios of two amounts of power. It is equal to a decibel when a reference level of one milliwatt at 600 ohms is used.

VOLT AMPERE(S)

The product of the R.M.S. voltage applied to a circuit and the R.M.S. current, in amperes, flowing through it.

WAVEFORM INFLUENCE

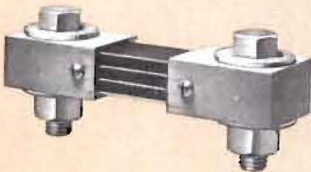
The change in indication, caused solely by a change in waveform from a specified waveform, of the applied current and/or voltage.

The waveform influence is usually expressed as a percentage change of full scale value (*see NOTE 1* under full scale value definition this section) for a specified waveform change.

See your Electronic Distributor for your stock panel meters.



BAKELITE BASE IS SUPPLIED UP TO 200 AMPERES



SWITCHBOARD TYPE 100 THROUGH 7000 AMPS



CURRENT TRANSFORMER



EXTERNAL MULTIPLIER MODEL 183 For Usage See Voltmeter Footnotes

EXTERNAL PORTABLE AND SWITCHBOARD SHUNTS— FOR USE WITH DC AMMETERS		
These shunts are adjusted for a 50 millivolt drop for use with switchboard and panel ammeters where external shunts are required. Portable shunts are bakelite base and supplied up to 200 amperes. (Prices shown include 5' leads.)		
PORTABLE SHUNTS		
Amps.	Part No.	Price
1	6700	\$6.90
5	6703	6.90
10	6704	6.90
15	6705	6.90
25	6707	6.90
30	6708	6.90
50	6709	6.90
75	6711	6.90
100	6713	6.90
150	6714	6.90
200	6715	6.90

SWITCHBOARD SHUNTS		
Amps.	Part No.	Price
100	6500	\$6.90
150	6503	7.35
200	6504	7.35
250	6505	7.35
300	6506	7.35
400	6507	9.30
500	6508	11.25
600	6509	13.50
750	6510	16.65
800	6511	17.70
1000	6512	21.90
1200	6513	26.55
1500	6514	32.70
2000	6515	37.20
2500	6516	47.25
3000	6517	56.70
3500	6518	79.35
4000	6519	96.15
4500	6520	105.75
5000	6521	113.40
6000	6522	126.15
7000	6523	153.60

CURRENT TRANSFORMERS— FOR USE WITH AC AMMETERS			
These current transformers are of the inserted one turn primary type for use with switchboard and panel ammeters where external transformers are required.			
AMPERE RANGES Primary	Secondary	Part No.	Price
50	5	1293	\$17.40
75	5	1306	12.60

AMPERE RANGES Primary	Secondary	Part No.	Price
100	5	1297	\$10.20
150	5	1298	9.00
200	5	1299	9.00
250	5	1313	10.20
300	5	1300	10.20
400	5	1305	11.40
500	5	1301	12.60
600	5	2303	12.60
750	5	2459	15.00
1000	5	2304	16.20

MODEL 183 MULTIPLIER SERIES
Simpson External Multipliers are available for immediate delivery from your local distributor in the ranges listed below. Other intermediate ranges are available on special order: DC Volts to 5000; AC Volts to 1000. Send your specifications for a quotation.

DC VOLTS—2000 Ohms/Volt				
Range	Multiplier Resistance Megohms	Meter Sensitivity DCUA	Part No.	Price
0-500	1	500	8552	\$4.0
0-750	1.5	500	8553	4.3
0-1000	2	500	8554	4.3
0-1250	2.5	500	8555	4.3
0-1500	3	500	8556	4.6
0-2000	4	500	8557	4.6
0-2500	5	500	8558	4.8
0-3000	6	500	8559	4.8
0-4000	8	500	8560	5.2
0-5000	10	500	8561	5.8

AC VOLTS—166 Ohms/Volt					
Range	Multiplier Resistance Ohms	Meter Volt. Drop	Part No.	Price	
0-500	58,333	350	150	8562	\$5.10
0-600	75,000	450	150	8563	6.00
0-750	100,000	600	150	8564	6.75
0-1000	141,666	850	150	8565	8.25

SIMPSON TEST EQUIPMENT

Add-a-tester Adapters Expands the famous 260 or 270 VOM as the need arises.

Handiscope Model 466

100,000 ohms per volt AC-DC Volt-Ohm-Microammeter Model 269

+

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WORLD'S LARGEST MANUFACTURER OF ELECTRONIC TEST EQUIPMENT

Write for bulletin 2066

Simpson ELECTRIC COMPANY

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WESTERN DIVISION:
Simpson Instruments
1130 Simpson Way (P.O. Box 488)
Escondido, California 92026
Phone: 714 745-8202

Export Dept.:
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Chicago, Illinois 60606
Cable: Amergaco

In Canada:
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VOM



Here's the most foolproof volt-ohm-milliammeter ever made. Protection approaches 100%. It's the VOM you will want to have on hand where inexperienced people are running tests . . . or will reach for yourself on those days when you're all thumbs. The 260-5P will save you all kinds of headaches from burned out meters and resistors, bent pointers, damaged pivots, cracked jewels, and inaccuracies caused by overheating.

**Combined Protection You Won't Find
In Any Other VOM**

1. Reset button pops out to indicate overload.
2. You cannot reset circuits while overload is present.
3. Protective circuit does *not* require massive overloads which can cause hidden damage to the instrument.
4. All ranges are protected except those not feasible in a portable instrument—1000 and 5000 volts DC and AC; 10 amp DC.

SIMPSON 260-5P

ONLY \$78.95

At your distributors by December '64

Ranges—The 260-5P has the same ranges and takes the same accessories as Simpson's famous 260-4 VOM. See page 20 in this catalog.

Simpson

Representatives in Principal Cities
...See Telephone Yellow Pages



DIVISION

SIMPSON ELECTRIC COMPANY

5202 W. Kinzie Street, Chicago, Ill. 60644 • Phone: (312) ESTebrook 9-1121

Export Dept.: 400 W. Madison Street, Chicago, Ill. 60606 Cable, Amergaco

California: Simpson Instruments, Inc., P.O. Box 488, 1130 Simpson Way, Escondido, Calif. • Phone: (714) SH 5-8202

In Canada: Bach-Simpson Ltd., London, Ontario

In India: Ruttonsha-Simpson Private Ltd., International House, Bombay-Agra Road, Vikbrali, Bombay

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